

## Chemical Safety Data Sheet MSDS / SDS

## Acetone

Revision Date:2022-12-24 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : Acetone  
CBnumber : CB3130928  
CAS : 67-64-1  
EINECS Number : 200-662-2  
Synonyms : acetone,Aceton

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

P405 Store locked up.

## Hazard statements

H225 Highly Flammable liquid and vapour

H319 Causes serious eye irritation

H336 May cause drowsiness or dizziness

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## SECTION 3: Composition/information on ingredients

### Substance

Product name	: Acetone
Synonyms	: acetone, Aceton
CAS	: 67-64-1
EC number	: 200-662-2
MF	: C <sub>3</sub> H <sub>6</sub> O
MW	: 58.08

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## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Foam Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Carbon oxides Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

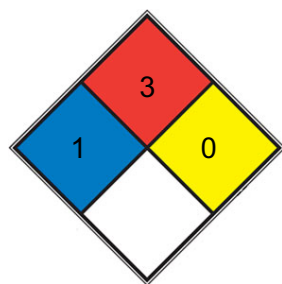
### Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

### Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### NFPA 704



■ HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature

■ FIRE 3 conditions. Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

□ SPEC.

HAZ.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### Environmental precautions

Do not let product enter drains. Risk of explosion.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb? ). Dispose of properly. Clean up affected area.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

#### Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

### Exposure controls

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested: Butoject? (KCL 898)

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in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: Latex gloves

Minimum layer thickness: 0,6 mm Break through time: 10 min

Material tested: Lapren? (KCL 706 / Aldrich Z677558, Size M)

#### Body Protection

Flame retardant antistatic protective clothing.

#### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type AX

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

#### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

#### Exposure limits

TLV-TWA 1780 mg/m<sup>3</sup> (750 ppm), STEL 2375 mg/m<sup>3</sup> (ACGIH); 10 h-TWA 590 mg/m<sup>3</sup> (250 ppm); IDLH 20,000 ppm (NIOSH).

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	Form: clear, liquid Color: colorless
Odour	pungent, weakly aromatic
Odour Threshold	0,1 ppm
pH	5 - 6 at 395 g/l at 20 °C
Melting point/freezing point	Melting point/range: -94 °C - lit. 56 °C at 1.013 hPa - lit.
Initial boiling point and boiling range	56 °C at 1.013 hPa - lit.
Flash point	-17,0 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 13 %(V) Lower explosion limit: 2 %(V)
Vapour pressure	245,3 hPa at 20,0 °C
Vapour density	2 (vs air)
Relative density	0,791 g/cm <sup>3</sup> at 25 °C
Water solubility	soluble, in all proportions
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	465,0 °C
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available

Explosive properties	No data available
Oxidizing properties	No data available
Henry's Law Constant	2.27 at 14.9 °C, 3.03 at 25 °C, 7.69 at 35.1 °C, 11.76 at 44.9 °C (Betterton, 1991)

### Other safety information

Conductivity 0,01 µS/cm at 20 °C Surface tension 23,2 mN/m at 20,0 °C

## SECTION 10: Stability and reactivity

### Reactivity

Vapors may form explosive mixture with air.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with: chromosulfuric acid

chromyl chloride ethanolamine

Fluorine

Strong oxidizing agents strong reducing agents Nitric acid chromium(VI) oxide Risk of explosion with: nonmetallic oxyhalides

halogen-halogen compounds Chloroform

nitrating acid nitrosyl compounds hydrogen peroxide halogen oxides

organic nitro compounds peroxi compounds Exothermic reaction with: Bromine

Alkali metals alkali hydroxides

Halogenated hydrocarbon Sulfur dichloride phosphorous oxichloride

### Conditions to avoid

Warming.

### Incompatible materials

rubber, various plastics

### Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - 5.800 mg/kg

Remarks:

(ECHA)

LC50 Inhalation - Rat - 4 h - 76 mg/l Remarks:

Unconsciousness Drowsiness Dizziness (External MSDS)

LD50 Dermal - Rabbit - 20.000 mg/kg Remarks:

(IUCLID)

#### **Skin corrosion/irritation**

Skin - Rabbit

Result: Mild skin irritation - 24 h (Draize Test)

Remarks:

(RTECS)

#### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Eye irritation - 24 h (Draize Test)

Remarks:

(RTECS)

#### **Respiratory or skin sensitization**

Remarks:

(ECHA)

Chronic exposure may cause dermatitis.

#### **Germ cell mutagenicity**

Mutagenicity (mammal cell test): chromosome aberration. Chinese hamster ovary cells

Result: negative Ames test

Salmonella typhimurium Result: negative

In vitro mammalian cell gene mutation test Mouse lymphoma test

Result: negative

#### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

Inhalation - May cause drowsiness or dizziness. - Narcotic effects

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

#### **Toxicity**

LD50 in rats: 10.7 ml/kg orally (Smyth)

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

flow-through test LC50 - Pimephales promelas (fathead minnow) -

6.210 mg/l - 96 h

(OECD Test Guideline 203)

#### **Toxicity to daphnia and other aquatic invertebrates**

static test LC50 - Daphnia pulex (Water flea) - 8.800 mg/l - 48 h Remarks: (ECHA)

#### **Toxicity to algae**

static test NOEC - M.aeruginosa - 530 mg/l - 8 d

(DIN 38412)

Remarks: (maximum permissible toxic concentration) (IUCLID)

#### **Toxicity to bacteria**

static test EC50 - activated sludge - 61,15 mg/l - 30 min (OECD Test Guideline 209)

#### **Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d

Result: 91 % - Readily biodegradable. (OECD Test Guideline 301B)

Biochemical Oxygen Demand (BOD)

Chemical Oxygen Demand (COD)

Theoretical oxygen demand

1.850 mg/g Remarks: (IUCLID)

2.070 mg/g Remarks: (IUCLID)

2.200 mg/g Remarks: (Lit.)

#### **Bioaccumulative potential**

Does not bioaccumulate.

#### **Mobility in soil**

No data available

#### **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **Other adverse effects**

Additional ecological No data available

information

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## **SECTION 13: Disposal considerations**

#### **Waste treatment methods**

#### **Product**

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

#### **Incompatibilities**



Acetone reacts violently with oxidizing agents, chlorinated solvents, and alkali mixtures. It reacts vigorously with sulfur dichloride, potassium t-butoxide, and hexachloromelamine. Acetone should not be used as a solvent for iodine, as it forms a volatile compound that is extremely irritating to the eyes.

#### **Waste Disposal**

Consult with environmental regulatory agencies for guidance on acceptable disposal practices. Generators of waste containing this contaminant ( $\geq 100$  kg/mo) must conform with EPA regulations governing storage, transportation, treatment, and waste disposal. Incineration.

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## SECTION 14: Transport information

#### **UN number**

ADR/RID: 1090 IMDG: 1090

#### **UN proper shipping name**

ADR/RID: ACETONE IMDG: ACETONE IATA: Acetone

#### **Transport hazard class(es)**

ADR/RID: 3 IMDG: 3 IATA: 3

#### **Packaging group**

ADR/RID: II IMDG: II IATA: II

#### **Environmental hazards**

ADR/RID: no IMDG Marine pollutant: no IATA: no

#### **Special precautions for user**

No data available

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## SECTION 15: Regulatory information

### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **Regulations on the Safety Management of Hazardous Chemicals**

China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

#### **Measures for Environmental Management of New Chemical Substances**

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

EC Inventory: Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL): Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

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## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

### Other Information

Use of alcoholic beverages enhances the harmful effect.

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.